

ABSTRACT OF THE DISCLOSURE

Method for producing substrates charged with materials, including placing the substrate into an evacuated vacuum container. The substrate is exposed to a reactive gas which is adsorbed on the surface. The surface with the adsorbed reactive gas is exposed to a low-energy plasma discharge with ion energy E_{i0} on the surface of the substrate of $0 < E_{i0} \leq 20$ eV; and an electron energy E_{eo} of 0 eV $< E_{eo} \leq 100$ eV. The adsorbed reactive gas is allowed to react at least with the cooperation of plasma-generated ions and electrons.